

Response to Claims Rejections under 35 USC §102

Claims 1-6 are rejected under 35 USC 102(e) as being anticipated by Jain.

For a proper rejection of a claim under 35 U.S.C. section 102, the cited reference alone must disclose all elements/features/steps of the claim.

Independent claim 1 states:

1. *A bonding pad structure*, comprising:

a copper layer;

a passivation layer over the copper layer having a pad window to expose a portion of the copper layer;

a barrier layer conformal to a profile of the pad window; and

an aluminum pad located in the pad window.

(Emphasis Added)

Independent claim 1 is allowable for at least the reason that Jain does not disclose, teach, or suggest the features "*a bonding pad structure*", "*a barrier layer conformal to a profile of the pad window*" and "*an aluminum pad located in the pad window*", that are highlighted in claim 1 above.

More specifically, claim 1 defines a bonding pad structure, i.e., a film structure for a bonding pad. The whole patent of Jain is directed to a method for forming a refractory metal nitride and a refractory metal silicon nitride layer by using metal organic chemical deposition (Abstract). Jain does not specifically teach a film structure for a bonding pad structure. In fact, the film structure of Jain can not be provided for a bonding pad structure because in a bonding pad structure, a plurality of openings will be formed on a

layer, each of the openings will have a barrier conformal to the profile of the opening and an aluminum pad located in the opening respectively. And each of the barrier and the aluminum pad is located in or near the opening and is separated from each other, this structure is the basic requirement of a bonding pad structure due to each of the openings may be bonded to different wires. Referring to the film structure of Jain, the barrier layer 64 is formed conformal to the whole profile of the interconnect trench 54 of the dielectric layer and the second conductive layer 66 is formed to cover trench 54 as well as the via opening 52. The combination of layers 64 and 66 forms a bit line 62. Col. 5, lines 47-55. Consequentially, the film structure of Jain can not be provided for a bonding pad structure. Therefore, Jain does not teach a bonding pad structure as defined in claim 1.

Furthermore, although Jain discloses that the first conductive layer 36 can be copper, aluminum, or tungsten (Col. 5, lines 28-29), and that the second conductive layer 66 uses a material similar to layer 36, he does not expressly teach a combination of a copper layer 36 and an aluminum layer 66 as required by claim 1 and totally fails to recognize the advantages of using an aluminum bonding pad on a copper layer.

Thus, Jain does not anticipate claim 1. The withdrawal of the rejection and the allowance of claim 1 are therefore earnestly solicited.

If independent claim 1 is allowable over the prior art of record, then its dependent claims 2-6 are allowable as a matter of law, because these dependent claims contain all features/elements/steps of its respective independent claim 1.

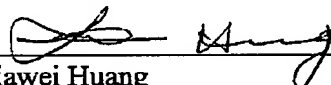
CONCLUSION

For at least the foregoing reasons, it is believed that all pending claims 1-6 are in proper condition for allowance. If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is cordially invited to telephone the undersigned counsel to arrange for such a conference.

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